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NYC Vehicle Collisions: Decrease Post-Covid 19

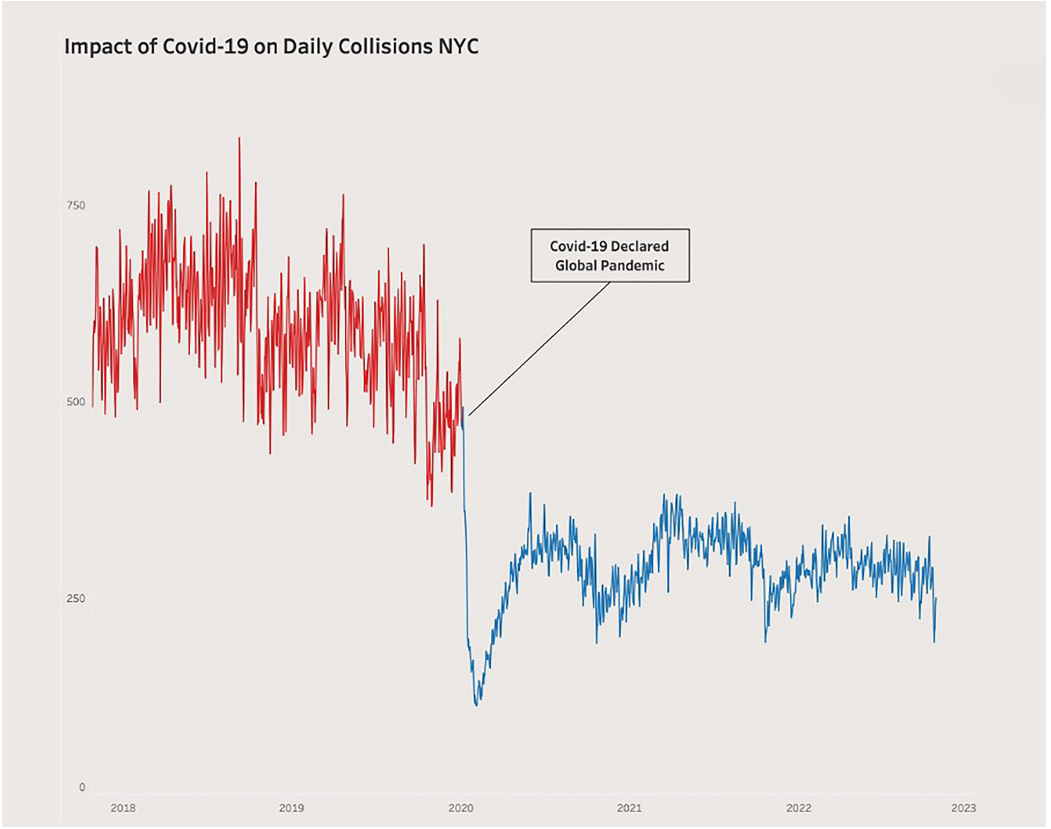
The issue:

Our project investigates vehicle collisions in New York City, specifically looking at changes after the Covid-19 breakout in March of 2020. We studied driver behaviour and accident rates to see how they are connected to the changes in vehicle collisions in the last years. Our goal is to find trends that can help make the roads safer.

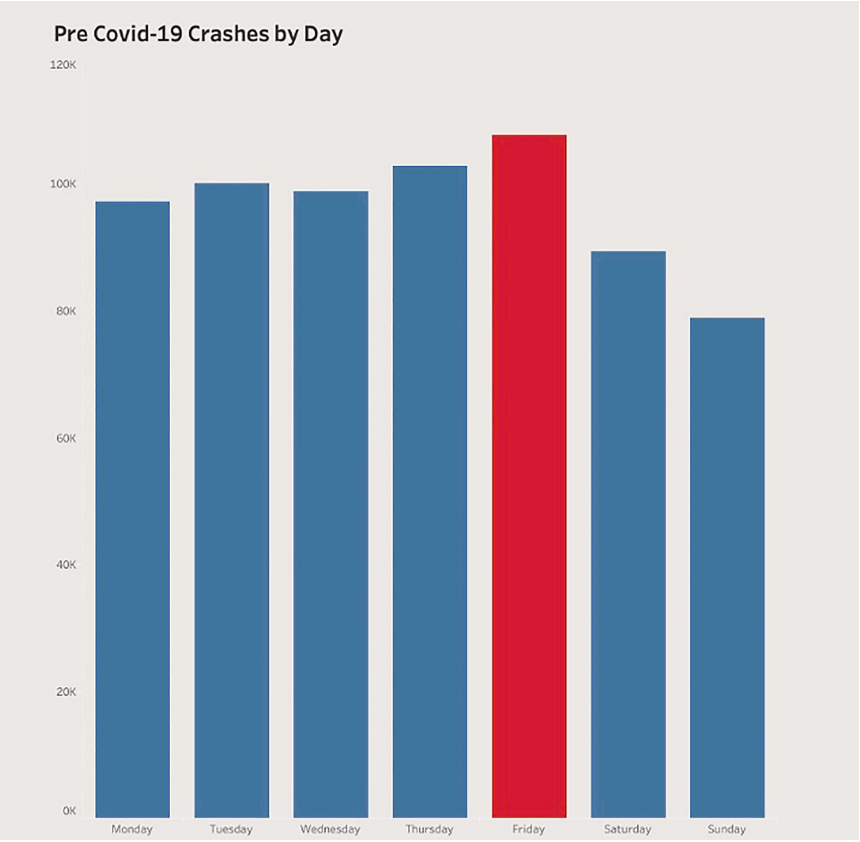
Our sources:

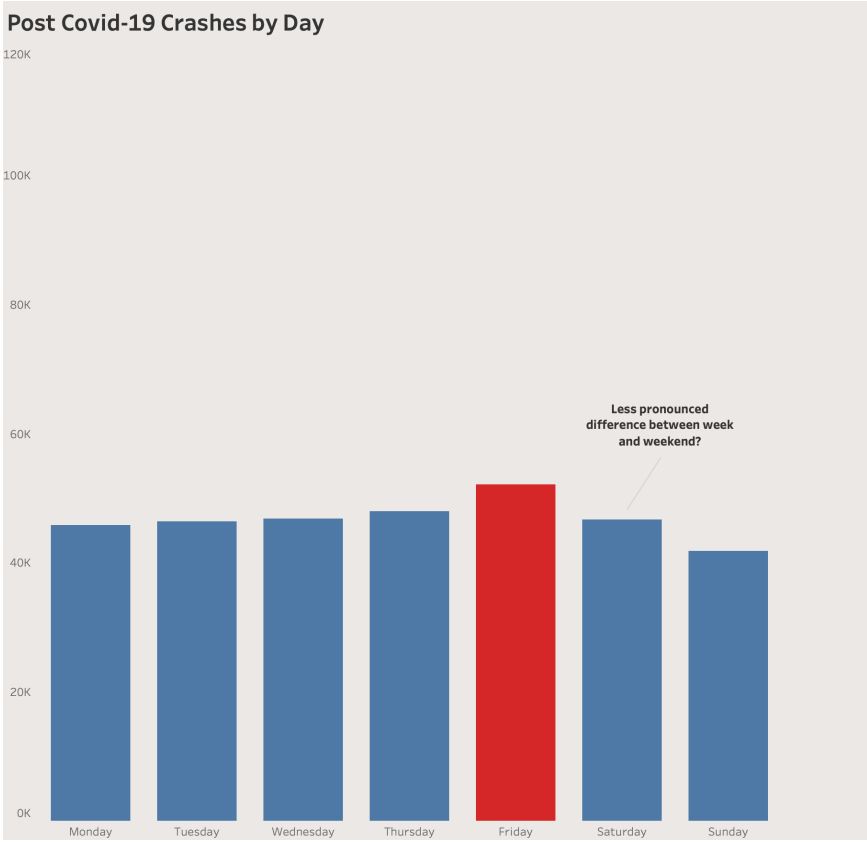
Our primary source for our analysis was from kaggle.com/datasets/ishmaelkiptoo/motor-vehicle-collisions/. This data, which is derived from all police-reported motor vehicle collisions in the city, is meticulously compiled in the Motor Vehicle Collisions crash table. Each row in this table details a specific crash event, offering a granular view of the circumstances and outcomes of these incidents.

The visualisation opens an inquiry into how COVID-19 reshaped New York City's traffic, marking a transition from dense, bustling roads to an unexpected calm. It charts the city's journey through the pandemic, highlighting shifts in movement and safety, and setting the stage for a deeper dive into urban life's new normal post-March 2020.



Behaviour changes:
Did New Yorkers start using their vehicles at other times?





Our primary observation is that of a marked reduction in traffic collisions post-COVID. This signals a significant decline in road use and possibly enhanced safety measures post-covid. Concurrently, there is a convergence between weekday and weekend crash rates, which hints at a potential lifestyle shift, possibly due to the rise in work-from-home arrangements, altering traditional peak travel times.

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Behaviour changes:
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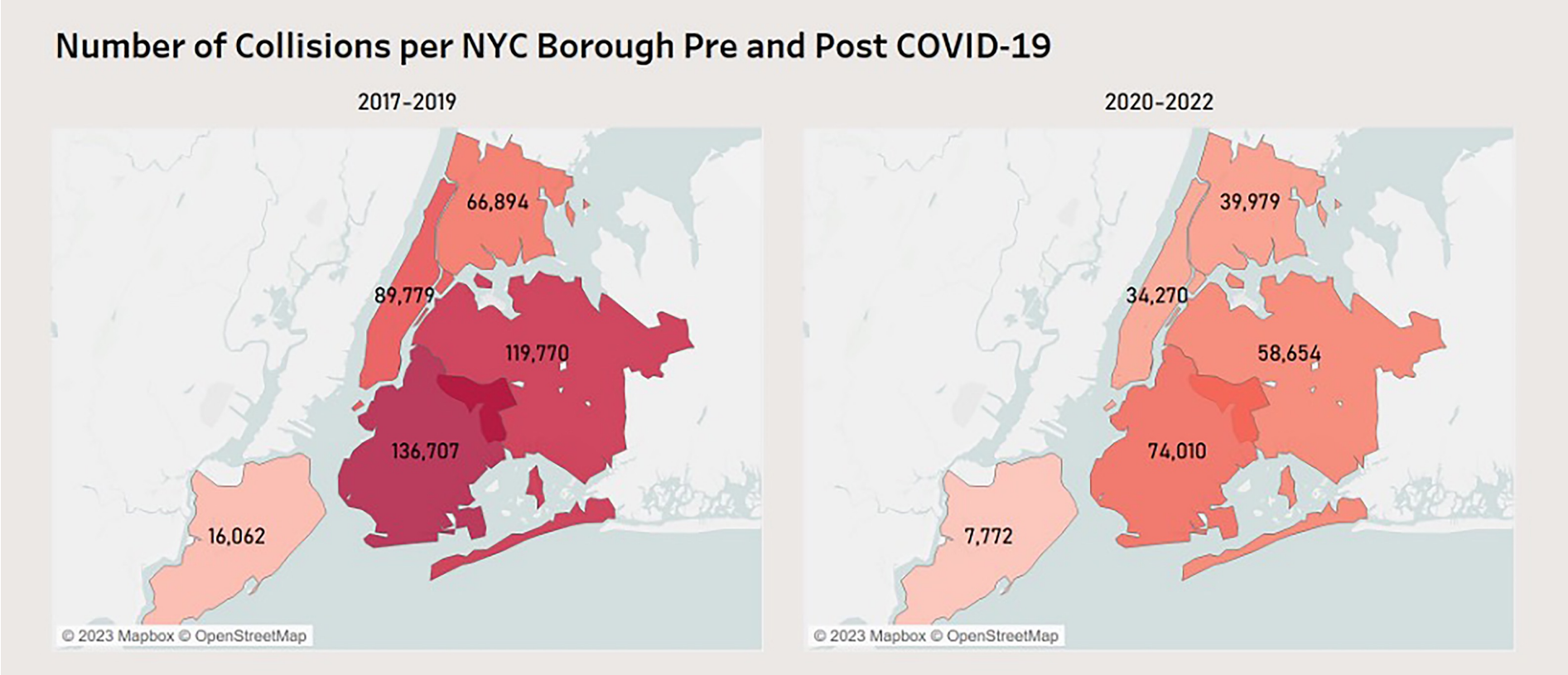
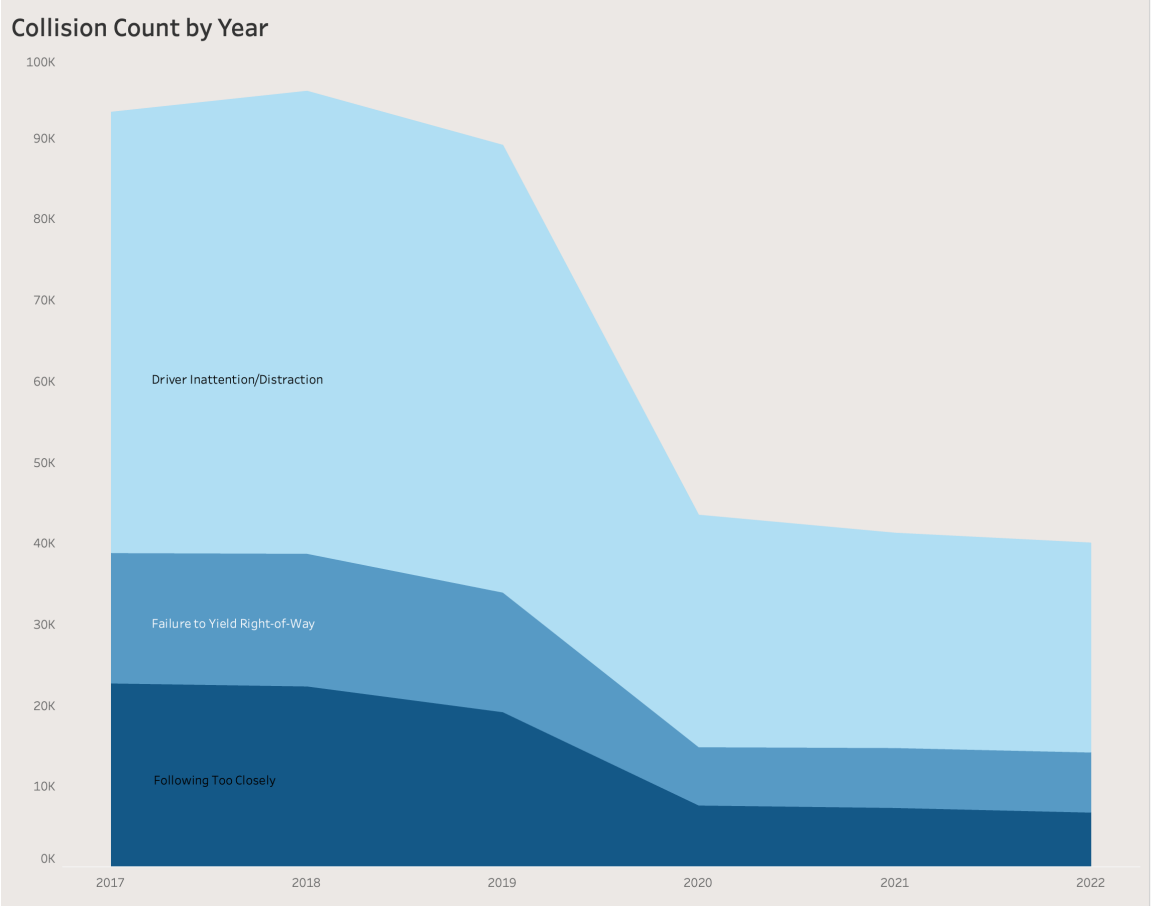


The maps starkly reiterates the disparity in traffic collisions by borough between the pre and post-COVID eras, with all boroughs showing a pronounced decrease. This localized view suggests that the pandemic's impact on mobility and safety was relatively stable across the city.

Other changes:
Did the most frequent types of collisions change over time?



Despite looking at the behaviours of New Yorkers through various lenses in previous visualizations, no significant patterns emerged to robustly explain the substantial decrease in vehicle collisions.

In search of outliers that might explain the behavioural shifts in traffic post-COVID, our focus turned to the top three causes of collisions. The resulting graph shows a uniform reduction in incidents attributed to driver inattention, failure to yield right-of-way, and following too closely, with no single cause standing out as an anomaly. This consistency across major contributing factors reinforces the central idea that no one change in collision type is driving this systematic change but rather Covid is changing travel frequency uniformly across the board.

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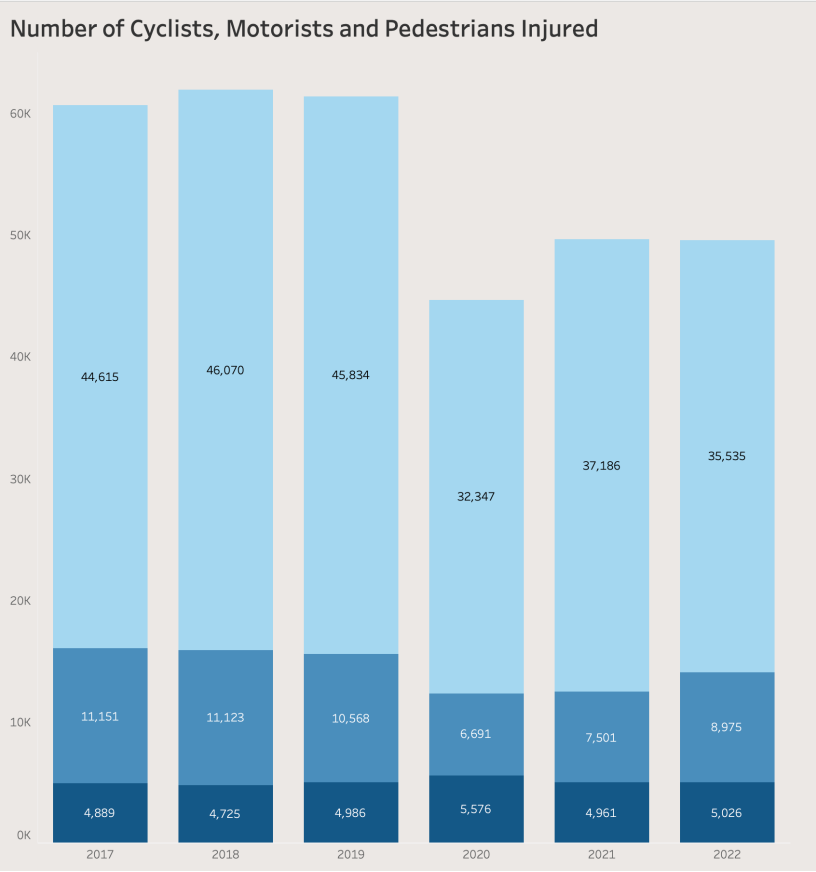
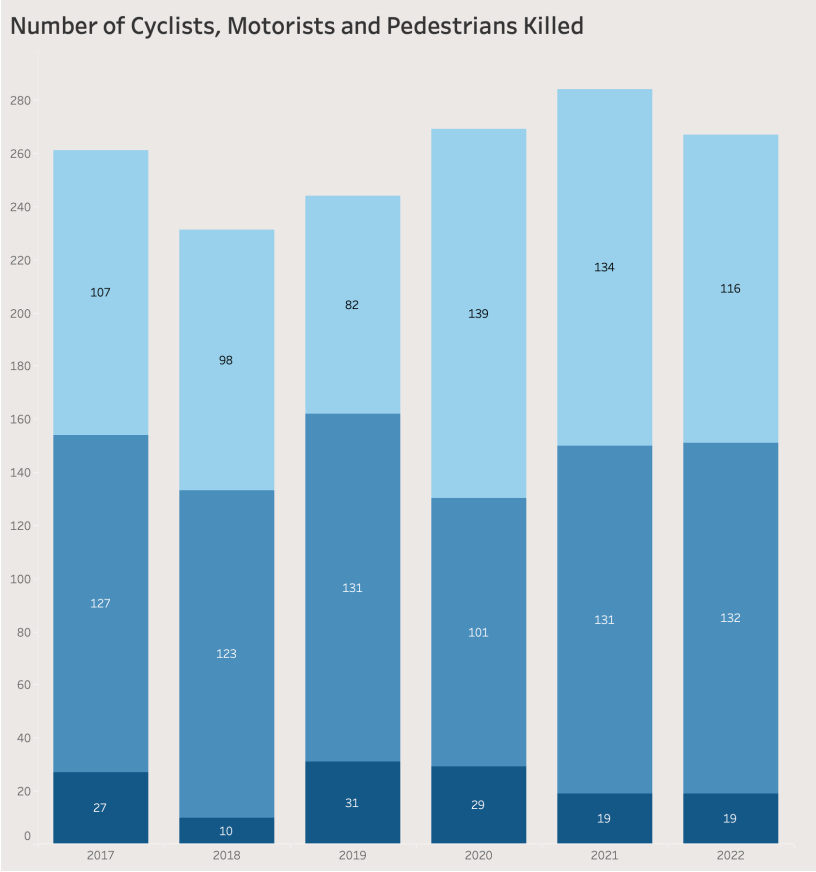
Other changes:
Do Injuries and Deaths go down as vehicle collisions go down?





While overall injuries and fatalities in traffic collisions have declined, the data reveals a concerning uptick in motorist fatalities. This specific rise contrasts with the general downward trend in cyclist and pedestrian deaths over the same period.

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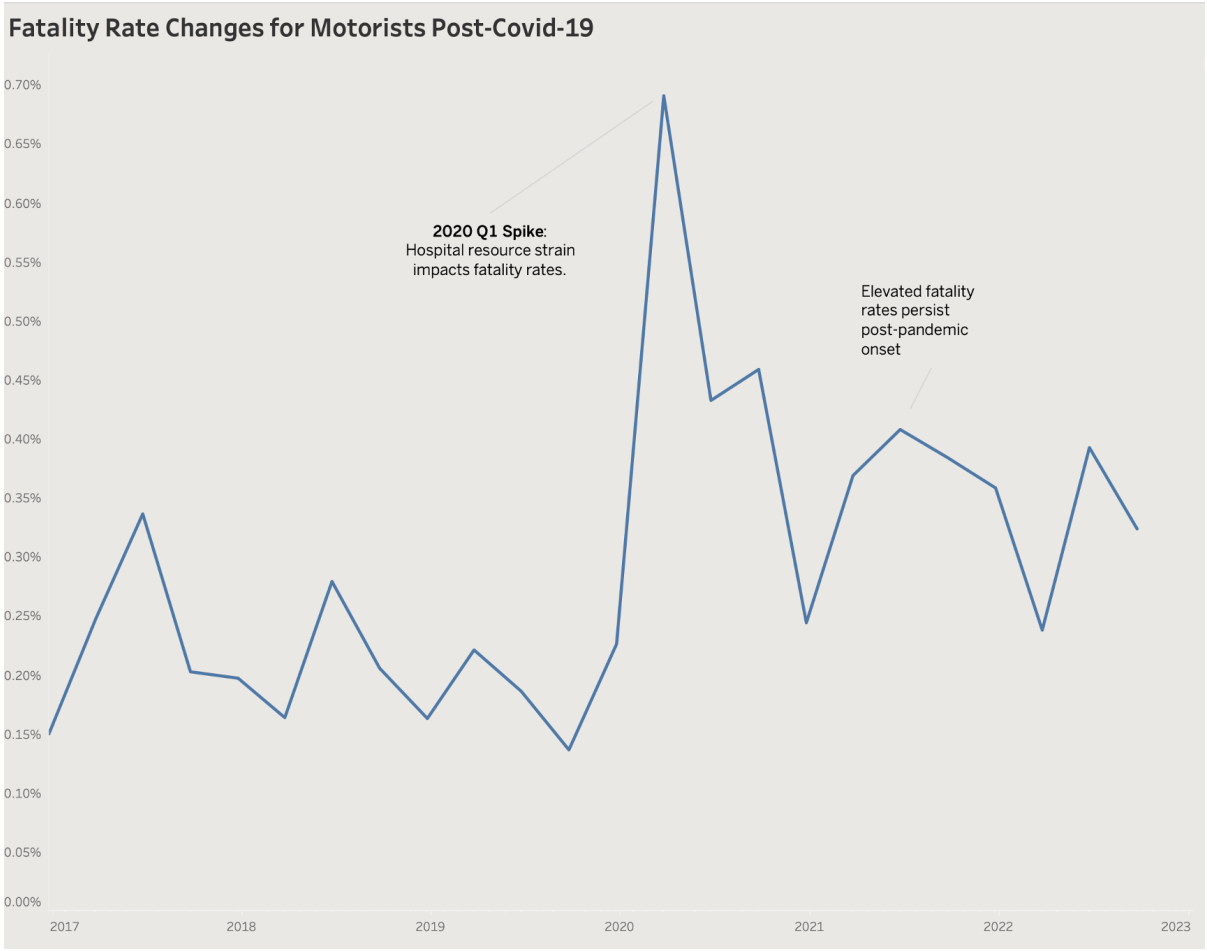
Deep Dive:
Visualising Increase in Motorist Fatalities



The concluding graph crystallizes a sobering reality: post-COVID-19, New York has witnessed a sustained increase in motorist fatality rates. Notably, the initial spike in Q1 2020 correlates with the healthcare system's strain during the pandemic's surge, impacting the survivability of accidents. Despite a general downward trend in collisions, this persistent elevation in fatalities points to complex, underlying factors that have made the roads more perilous for motorists in the pandemic's wake.

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